



A Case of Secondary Infertility Due to Retention of Fetal Bones in Cervix

Servikste Fetal Kemik Kalıntlarına Bağlı Sekonder İnfertilite Olgusu

Infertility Due to Fetal Bones in Cervix

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Özet

Servikste fetal kemiklerin retansiyonuna bağlı sekonder infertilite olgusu sunmak. Kronik pelvik ağrı ve dispareni şikayetiyle hastaneye başvuran ve öyküsünden bir gebelik terminasyonu sonrası 12 yıllık sekonder infertil olduğu öğrenilen 34 yaşındaki hastanın transvajinal (TV) ultrasonografisinde (USG) serviks arka duvarda lineer ekojenik bir alan izlendi. Histeroskopik inceleme ile servikste yerleşmiş düzensiz sınırlı kalsifiye bir kitlenin varlığı doğrulandı. Histopatolojik incelemede bu kitlenin muhtemelen rahim içi araç etkisi oluşturmuş konglomere fetal kemik parçaları olduğu saptandı. Bu kitlenin çıkarılmasını takiben hastada 4 ay içerisinde spontan gebelik oluştu. Bu vaka sunumu ile indüklenmiş veya spontan abortus sonrası sekonder infertiliteyle başvuran hastalarda detaylı anamnez alınmasının ve TV USG yapılmasının önemini vurgulamaktadır.

Anahtar Kelimeler

Fetal Kemikler; Histeroskopi; İnfertilite; Retansiyon; Ultrasonografi

Abstract

A case of secondary infertility related to prolonged retention of fetal bones in the cervix is presented. A 34-year-old nulliparous woman was admitted to the hospital with chronic pelvic pain, dyspareunia, and 12-year-long secondary infertility following an induced abortion due to fetal demise. Transvaginal ultrasonography (USG) revealed a linear echogenic area around the posterior cervical wall. An hysteroscopic examination confirmed the existence of an irregular calcified mass embedded in the cervix. The mass turned out to be conglomerated fetal bone fragments which probably acted as an intrauterine device. After removal of the cervical mass, the patient conceived spontaneously within four months. The present case report emphasizes the significance of a detailed history and a thorough evaluation by transvaginal USG in the case of secondary infertility following an induced or spontaneous abortion.

Keywords

Fetal Bones; Hysteroscopy; Infertility; Retention; Ultrasonography

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Introduction

Every year many spontaneous and induced abortions occur. Large scale studies show that abortions are safe procedures with a significantly low lethal risk. The complication rates related to bleeding, cervical injury, uterine penetration, or adhesions range between 0.01% and 1.16%. However, no definite conclusions can be made about the long-term effects of spontaneous and induced abortions [1,2]. Retention of fetal bone fragments in the uterus after the spontaneous or elective termination of a pregnancy is a rare cause of secondary infertility. Such a situation is usually associated with persistent irregular uterine bleeding, pelvic pain, dysmenorrhoea, vaginal discharge, and the spontaneous passage of fetal bones through menstrual blood flow [2,3]. A case of secondary infertility related to prolonged retention of fetal bones in the cervix is presented here.

Case Report

A 34-year-old woman, gravida one, para null, aborta one, was referred to the outpatient clinic of the infertility department due to chronic pelvic pain, dyspareunia, and 12-year-long secondary infertility. She revealed that she had been married for 13 years and that she had had an 18-week-old pregnancy terminated due to fetal demise 12 years earlier. Her menstrual periods had been normal before and after the termination of the aforementioned pregnancy. There was nothing particular in her medical and family history.

Her general physical examination was evaluated as normal. Although uterus and bilateral adnexa were examined as normal, a rigid cervix was noted during pelvic examination. The mean levels of follicle stimulating hormone, luteinizing hormone, estradiol, prolactin, and thyroid stimulating hormone levels in the serum were found to be within the normal range. The semen of her husband was evaluated to be normospermic.

Transvaginal ultrasonography (USG) showed a linear echogenic area around the posterior cervical wall which was defined as a calcified leiomyoma by the radiologist (Figure 1). Bilateral tubal

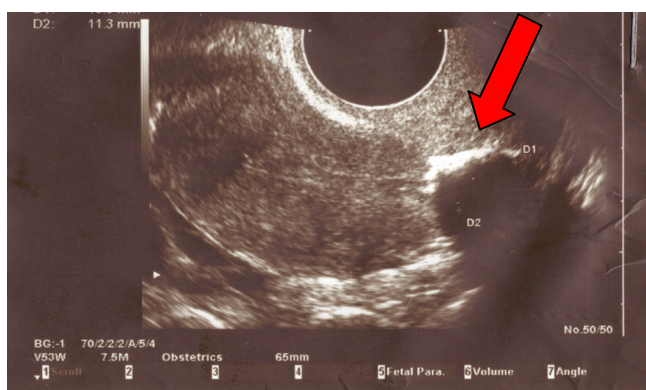


Figure 1. Transvaginal ultrasonography shows the linear echogenic area with posterior acoustic shadow on posterior cervical wall.

patency was demonstrated by hysterosalpingography (HSG) which also showed that the uterine cavity was normal. A diagnostic hysteroscopic examination was planned to investigate the calcified lesion around the posterior cervical wall. Hysteroscopy revealed an irregular solid mass embedded in the cervix which was excised by loop cautery. The solid mass was suspected to be conglomerated fetal bone fragments.

Histopathological analysis reported mature osseous tissue and bone marrow remnants consistent with fetal bones at about the 20th week of gestation (Figure 2). After a hysteroscopy, the pel-

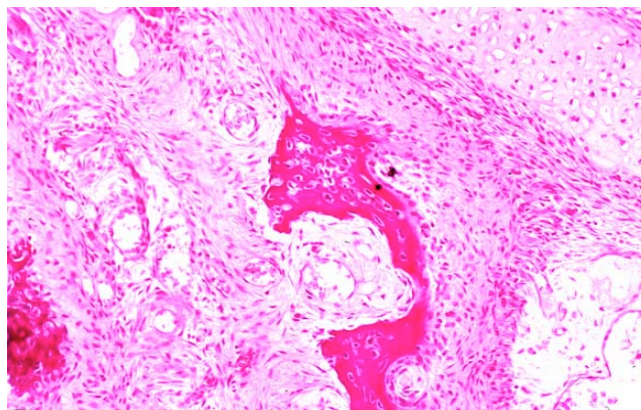


Figure 2. Histopathological analysis shows mature osseous tissue consistent with fetal bones at about 20th week of gestation (x500 magnification, hematoxylin and eosin stain).

vic pain and dyspareunia of the woman resolved progressively and control transvaginal USG showed a normal uterus and cervix. Four months later she conceived spontaneously, which resulted in delivery of a female newborn with a birth weight of 3150 grams.

Discussion

Infertility can be caused by calcification and ossification of fetal tissues that remain within the uterus after spontaneous or induced abortions. Since gynecologic instruments are rarely used during termination of second trimester pregnancies, fetal bones that include pieces of a skull or extremities can easily disintegrate and retain in the uterine cavity [1-3]. However, it has been hypothesized that even early abortions occurring before fetal bone development may lead to the formation of calcified residues due to osseous metaplasia of the endometrium and endocervix.

Prolonged infection and inflammation of endometrial and endocervical tissues may induce alteration of endometrial stromal cells into cartilaginous or bony tissues [1-5].

Retained bony fragments may trigger the local release of prostaglandins which may cause prevention of blastocyst implantation. Moreover, retained fetal bones may act as intrauterine devices or adhesions that result in unwanted contraception [4,5]. The literature reviews subjects with secondary infertility related to prolonged retention of fetal bones [2-8]. The mean age of these subjects ranged between 20 and 36 years. The terminated pregnancies of the reviewed subjects had gestational ages which varied from 12 to 26 weeks. The mean interval between pregnancy termination and clinical presentation is reported as between 18 and 180 months for the reviewed subjects in the literature. Although irregular uterine bleeding was the most frequent accompanying symptom, nearly half of the reviewed subjects had no other associated symptoms. Moreover, most of the reviewed subjects were reported to conceive spontaneously after the removal of the intrauterine residual tissues [2-8].

Retained fetal bones are suspected in cases in which linear echogenic endometrium appears on transvaginal USG or where filling defects occur on HSG. Transvaginal USG should be the

imaging method of choice in the evaluation of women who present with infertility, pelvic pain, irregular bleeding, and vaginal discharge after an induced or spontaneous abortion [3,5-7]. During hysteroscopy, saline infusion can allow the visualization of persisting bones by means of cavitory distention. However, this non-invasive procedure may overlook bone fragments that have been embedded deep in the endometrium at the endometrial-myometrial junction. Further investigation should be performed when an echogenic area appears in sonographic scans of the uterus and when hysteroscopy reveals an empty uterine cavity. As hysteroscopy also provides the opportunity for treatment of existing retained fragments and related intrauterine adhesions, such an intervention also should aim to reestablish fertility [1-6,8].

In the present case, fetal bony pieces were found within the cervix, while in the literature, most of the retained bones are reported to be located in the posterior portion of the uterine fundus. Although hysteroscopy seems to be the most effective means of treating retained fetal tissues and related adhesions, curettage should be preferred when hysteroscopy is not feasible. However, it should be kept in mind that rigorous curettage may be complicated with uterine perforation if there is endometritis induced by prolonged retention of fetal tissues [5-8]. Regardless of the interval between the abortion and presentation of secondary infertility, a detailed history should be obtained. Moreover, both the uterus and cervix should be carefully evaluated by transvaginal USG, and, if possible, by hysteroscopy. The likelihood of pregnancy is high following the removal of fetal bones provided there is no other pelvic inflammatory disease. Consequently, fetal tissue retention within either the uterine cavity or cervix should be considered as a recognizable and treatable cause of secondary infertility.

Competing interests

The authors declare that they have no competing interests.

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